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CENTRAL FAX CENTER Docket No. 031948-8  
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#### REMARKS

The Official Action dated July 25, 2006 has been received and its contents carefully noted. In view thereof, Figs. 1, 3, 4 and 6 as well as Applicant's specification have been amended in order to place the present application in proper condition for allowance. As previously, claims 1-11 are presently pending in the instant application.

Initially, Applicant wishes to acknowledge the Examiner's indication on page 5 of the Office Action that claim 11 has been considered allowable over the prior art of record, while claims 3-10 have been objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. In view of the following comments, it is respectfully requested that these claims along with claims 1 and 2 be indicated as being allowable over the prior art of record and that the application be passed to issue.

With reference now to paragraph 2 of the Office Action, the disclosure has been objected to as including minor informalities. In this regard, as can be seen from the foregoing amendments, those informalities noted by the Examiner have been cured and consequently, it is respectfully submitted that Applicant's specification is now in proper formal condition for allowance.

With reference to paragraphs 3 and 4 of the Office Action, the drawings have been objected to as failing to comply with 37 C.F.R. §1.84(p)(4) and (5) because reference characters have either not been included or have been used to designate two different elements in the figures. In this regard, filed concurrently herewith is a Submission of Substitute Formal Drawings wherein Figs. 1, 4 and 6 have been amended in order to correct those portions of the figures objected to by the Examiner. Accordingly with the submission

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of such substitute drawings it is respectfully submitted that Applicant's several figures are now in proper formal condition for allowance.

Turning now to paragraph 7 of the Office Action, claim 1 has been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,886,569 issued to Mitsubishi in view of U.S. Patent No. 5,305,270 issued to Kim. This rejection is respectfully traversed in that the combination proposed by the Examiner neither discloses nor suggests that which is presently set forth by Applicant's claimed invention.

With reference to independent claim 1, this claim recites an internal power supply circuit comprising a first voltage detector for receiving an external power supply voltage and outputting a first detection signal indicating whether the external power supply voltage is higher than a first voltage, a first constant voltage generator for generating a first constant voltage from the external power supply voltage, a second constant voltage generator for generating a second constant voltage from the external power supply voltage with the second constant voltage differing from the first constant voltage and the first and second constant voltage generators having identical circuit topologies, a voltage switch for selecting one of the first constant voltage and a second constant voltage responsive to the first detection signal, and outputting the selected constant voltage as a first reference voltage and an internal power supply output unit for generating an internal power supply voltage from the external power supply voltage according to the first reference voltage and outputting the internal power supply voltage. Particularly, as the Examiner can readily appreciate from independent claim 1, a pair of constant voltage generators with identical circuit topologies are set forth in accordance with Applicant's claimed invention to generate two different constant voltages from an external power supply voltage, to select one of the two constant voltages according to the level of the external power supply voltage and to use the selected constant voltage as a

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reference voltage for generating an internal power supply voltage. This enables an integrated circuit to operate at one internal voltage during normal use and at a higher internal voltage during burn-in testing without requiring an extra input terminal for a control signal to select the internal voltage. The identical circuit topologies assure that the interval between the two constant voltages remains stable despite temperature variations and fluctuations in the external supply voltage. Clearly, the combination proposed by the Examiner neither discloses nor remotely suggests these features.

In rejecting Applicant's claimed invention, the Examiner appreciates that Mitsubishi does not disclose a second constant voltage generator or a voltage switch for selecting one of two constant voltages and relies on the teachings of Kim to provide such teaching. However, in reviewing the Mitsubishi reference, it is noted that this reference describes an integrated circuit that generates a single constant voltage from an external power supply voltage. Either the constant or the external power supply voltages itself is selected according to the level of the external power supply voltage, and the integrated circuit operates at the selected voltage. In doing so, this scheme enables burning-in testing to be performed with an extra control terminal, however, the operating voltage during the burn-in test is the unaltered external power supply voltage. Consequently, the integrated circuit is vulnerable to damage if the external power supply voltage becomes too high.

As noted above, the Examiner relies on the teachings of Kim stating that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the circuit of Mitsubishi by adding a second constant voltage generator in switching between them by way of a voltage switch in order to enable multiple voltages to be output while minimizing power loss.

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In this regard, Kim describes a circuit with two voltage generators (16, 18) having different current driving capabilities as noted from column 1, lines 60-64, that receive an external power supply voltage ( $V_{cc}$ ) and generate an internal power supply voltage ( $V_{cp}$ ) for charging the plates of the memory cell capacitors. The output of one voltage generator or the other is selected for this purpose, however, the selection is made according to the level of the internal power supply voltage ( $V_{cp}$ ) and not according to the level of the external power supply ( $V_{cc}$ ). Accordingly, it is clear that this scheme could not be used for burn-in testing. Instead, the purpose is to switch from a large capacity to a small capacity voltage generator to reduce power losses as specifically discussed in column 1, lines 46-60. Further, in reviewing the teachings of Kim, it is respectfully submitted that this reference fails to disclose or remotely suggest that the two voltage generators (16, 18) output different voltages. The reference characters V1 and V2 are used to denote their outputs or output terminals as noted from column 2, lines 58-65. It is not readily apparent to one of ordinary skill in the art nor does their appear to be a reason to surmise that the two voltage generators output different voltages in that the only stated difference between the two voltage generators is there current driving capacity. Still further, it is noted that there is no disclosure or suggestion that the two voltage generators have identical topologies. As noted from Figs. 3 and 5 of the reference, the two voltage generators are simply shown as blank boxes and no circuit topology is indicated. Further, no discussion with respect to the circuit topology can be found in the reference. Accordingly, because, as noted hereinabove the present invention as set forth in claim 1 utilizes a pair of constant voltage generators with identical circuit topologies to generate two different constant voltages from an external power supply voltage, it is assured that the interval between the two constant voltages remain stable despite temperature

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variations and fluctuations in the external power supply voltage. Clearly, this feature is nowhere disclosed in nor remotely suggested by the combination proposed by the Examiner.

Consequently, it is respectfully submitted that Applicant's claimed invention as set forth in independent claim 1 clearly distinguishes over the combination proposed by the Examiner and is in proper condition for allowance.

With reference to page 5 of the Office Action, claim 2 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Mitsubishi in view of Kim, and further in view of U.S. Patent No. 6,870,766 issued to Cho et al. This rejection is likewise respectfully traversed in that the patent to Cho et al. clearly fails to overcome the aforementioned shortcomings associated with the combination proposed by the Examiner.

As the Examiner can readily appreciate, claim 2 is directly dependent upon independent claim 1 and includes all the limitations thereof. Accordingly, the arguments with respect to the combination of Mitsubishi in view of Kim are incorporated herein by reference.

Further, while the patent to Cho et al. may be directed to a multi level flash memory with temperature compensation, and may disclose a voltage generator comprising an NMOS transistor (N22) coupled in series with a pair of resistors (R21, R22) it is clear from the foregoing discussion that the patent to Cho et al. fails to render obvious that which is presently set forth in independent claim 1. Consequently, for the reasons discussed hereinabove it is respectfully submitted that dependent claim 2 likewise distinguishes over the prior art of record and is in proper condition for allowance.

Therefore, in view of the foregoing it is respectfully requested that the objections and rejections of record be reconsidered and withdrawn by the Examiner, that claims 3-11 again be indicated as being allowable over the prior art of record, that claims 1 and 2 likewise be

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indicated as being allowable over the prior art of record and that the application be passed to issue.

Should the Examiner believe a conference would be of benefit in expediting the prosecution of the instant application, he is hereby invited to telephone counsel to arrange such a conference.

Respectfully submitted,

  
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